

Journal

of the

Royal Society of Western Australia

Volume 51

Part 3

6.—A new species of *Eucalyptus* from Western Australia

by F. D. Podger * and G. M. Chippendale †

Manuscript received 22 June 1967; accepted 18 July 1967

Abstract

A new species of *Eucalyptus* is described. The species, *E. laeliae* Podger et Chippendale, is closely related to the Powder Bark Wandoo, *E. accedens* W. V. Fitzg., and it occurs in some drainage lines of the Darling Scarp, associated with Jarrah, *E. marginata* Donn ex Sm..

Eucalyptus laeliae sp. nov. Arbor glabra, ad 20 m alta, cortice alba levi pulvere. Folia juvenilia 3-4 paribus, opposita ovata, deinde sub-opposita ovato-lanceolata. Folia matura alternata lanceolato-falcata coriacea, plerumque 10.0-16.5 cm longa et 1.4-2.2 cm lata (petiolo plerumque 1.1-1.6 cm longo incluso); nervi laterales ab utrinque parte costae medianae circiter 32-46 et cum ea angulum 40°-56° (plerumque 46°-54°) facientes. Umbellae axillares 6-9 florae (aliquando 4-11-florae), pedunculo 1.0-1.5 cm longo, subcompresso, margine incrassata, sursum dilatato; pedicelli 1.0-3.0 mm longi. Alabastri turbinato-obovoidi minute verrucosi, plerumque 6.5 mm longi; operculum hemisphaericum vel conicum, longitudine $\frac{1}{2}$ — $\frac{2}{3}$ tubi calycis qui plus minusve cylindricus 4.0-5.0 mm longus est. Antherae versatiles obovatae emarginatae rimis parallelis dehiscentes, glandula elliptica vel ovata. Fructus cupularo-cylindricus, minute verrucosus, plerumque 5.0-7.0 mm longus et 4.5-6.0 mm latus, margine angusta leviter convexa; semina subfusca irregularia plus minusve trigona, 1.0-1.5 mm longa. Cotyledones binati, segmentis anguste spathulatis.

Holotypus. 1.8 miles south east of North Dandalup on Whittakers Hill Road, about 43 miles south of Perth, Western Australia, 13/10/1966, L. McGann (FRI 13813). Isotypes at Perth, Sydney, Canberra and Melbourne.

Tree to 20 m high, with white, smooth powdery bark to the smallest branches, sometimes with older fragments of dark red-brown bark adhering; in autumn the newly exposed bark briefly butter-yellow. Young twigs somewhat quadrangular. Juvenile leaves opposite, ovate, for 3-4 pairs, then sub-opposite, ovate-lanceolate. Adult leaves alternate, lanceolate-falcate, coriaceous, mostly 10.0-16.5 cm long and 1.4-2.2 cm wide (including a petiole usually 1.1-1.6 cm long), with 32-46 pairs of primary lateral veins making an angle of 40°-56° (mostly 46°-54°) with the

midrib. Umbels axillary, 6-9 flowered (occasionally 4-11 flowered). Peduncles 1.0-1.5 cm long, flattened, biconvex, thickened at margin, expanded towards top; pedicels 1.0-3.0 mm long. Buds turbinato-obovoid, minutely verrucose, mostly about 6.5 mm long; operculum 2.0-3.0 mm long hemispherical to conical, $\frac{1}{2}$ to $\frac{2}{3}$ as long as the calyx tube which is more or less cylindrical, 4.0-5.0 mm long. Anthers versatile, obovate, emarginate, opening in parallel slits; gland elliptical to ovate, nearly as long as the cells. Fruit cupular-cylindrical, minutely verrucose, mostly 5.0-7.0 mm long and 4.5-6.0 mm wide, clearly distinct from pedicel which is 1.0-2.5 mm long; rim narrow, slightly convex; disc included, convex; valves 3, rarely 4, deltoid, apiculate, shortly exsert. Seeds brown, irregular or roughly trigonal, rounded on back, 1.0-1.5 mm long. Cotyledons Y-shaped with the segments narrow spathulate.

Citation of specimens other than holotype. Western Australia: Helena River gorge, 2 miles south of Darlington, 3/9/1965, F.D. Podger (FRI 13808). 9 miles south east of Pinjarra on Pinjarra-Dwellingup Road, 24/8/1965, F.D. Podger (FRI 13807). 1.5 miles south east of Serpentine edge of Darling Range, 24/8/1965, F.D. Podger (FRI 13809). Mt. Cooke, 1.5 miles east of 43 mile peg, Albany Highway, 24/8/1965, F.D. Podger (FRI 13810). 7 miles east of Harvey on Harvey-Tallanalla Road, 15/7/1965, F.D. Podger (FRI 13811). Dirk Brook, near 37 mile peg, South Western Highway, 11/10/1966, G. Chippendale (FRI 13812). North Dandalup, 2/3/1967, L. McGann (FRI 14162).

Figure 3 A, C, D, E was drawn from the holotype, and B was drawn from FRI 14162.

E. laeliae (Figure 1) is confined to drainage lines of the Darling Range, near areas of exposed rock free of the lateritic mantle. It is not found on lateritic gravels. Generally, the species occurs in small pure stands, and where it is associated with *E. marginata* Donn ex Sm., *E. calophylla* R. Br. ex Lindl., *E. redunca* Schau. var. *elata* Benth., or, occasionally, *E. patens* Benth., it does not form an intimate mixture.

E. laeliae is clearly related to *E. accedens* W. V. Fitzg., but only occurs in the same area as the latter species at the Helena River locality, and even here it is half a mile distant. *E. laeliae* has consistently smaller buds and fruit, and usually three valves, while *E. accedens* usually has four valves. The powder on the

* Forest Research Institute, Kelmscott, Western Australia.

† Forest Research Institute, Canberra, Australian Capital Territory.

trunk of *E. laeliae* is white, while that on *E. accedens* is creamy with a pale orange tint. There is a tendency, only, for the new species to have more primary lateral veins at a slightly greater angle with the midrib than is the case in *E. accedens*. *E. laeliae* occurs only in drainage lines, whereas *E. accedens* occurs on lateritic gravels with a clay subsoil.



Figure 1.—*Eucalyptus laeliae* at Mt. Cooke.

Seedlings raised from the new species show no segregation of morphological characters. The seedling leaves of *E. laeliae* develop from narrow ovate to broad ovate, being opposite for at least six pairs and then subopposite, while in *E. accedens* seedling leaves develop to subrotund or parabolic and become distinctly alternate. (Figure 2.)

The species was previously confused with *E. accedens*. The specific epithet is a reference to Laelia, one of the vestal virgins, and thereby a reference to the white clothing of the tree.

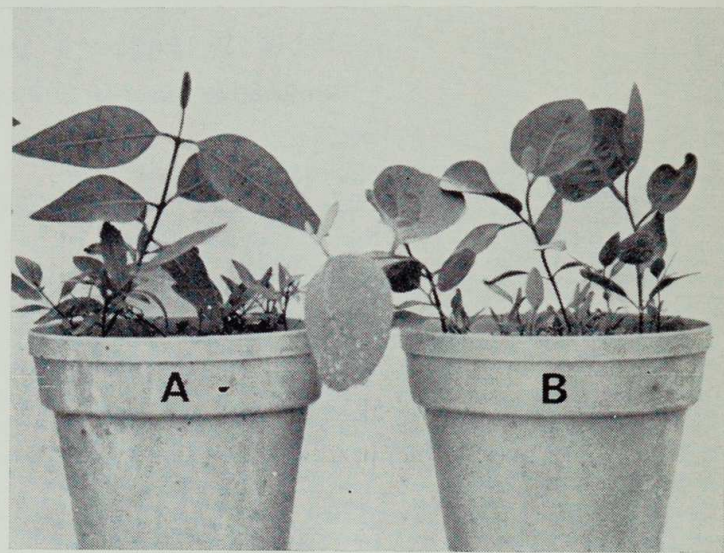


Figure 2.—Seedling at ten weeks. A. *E. laeliae* (from F. D. Podger FRI 13807); B. *E. accedens* (from Mokine Brook near Wandering).

Acknowledgments

Thanks are due to the Directors of the State Herbaria for allowing one of us (G.C.) to examine collections of *Eucalyptus accedens*. The Latin description was kindly made by Dr. R. Storey, Division of Land Research, C.S.I.R.O., Canberra. Figure 3 was drawn by Miss Marjorie Hall, Forest Research Institute, Canberra.

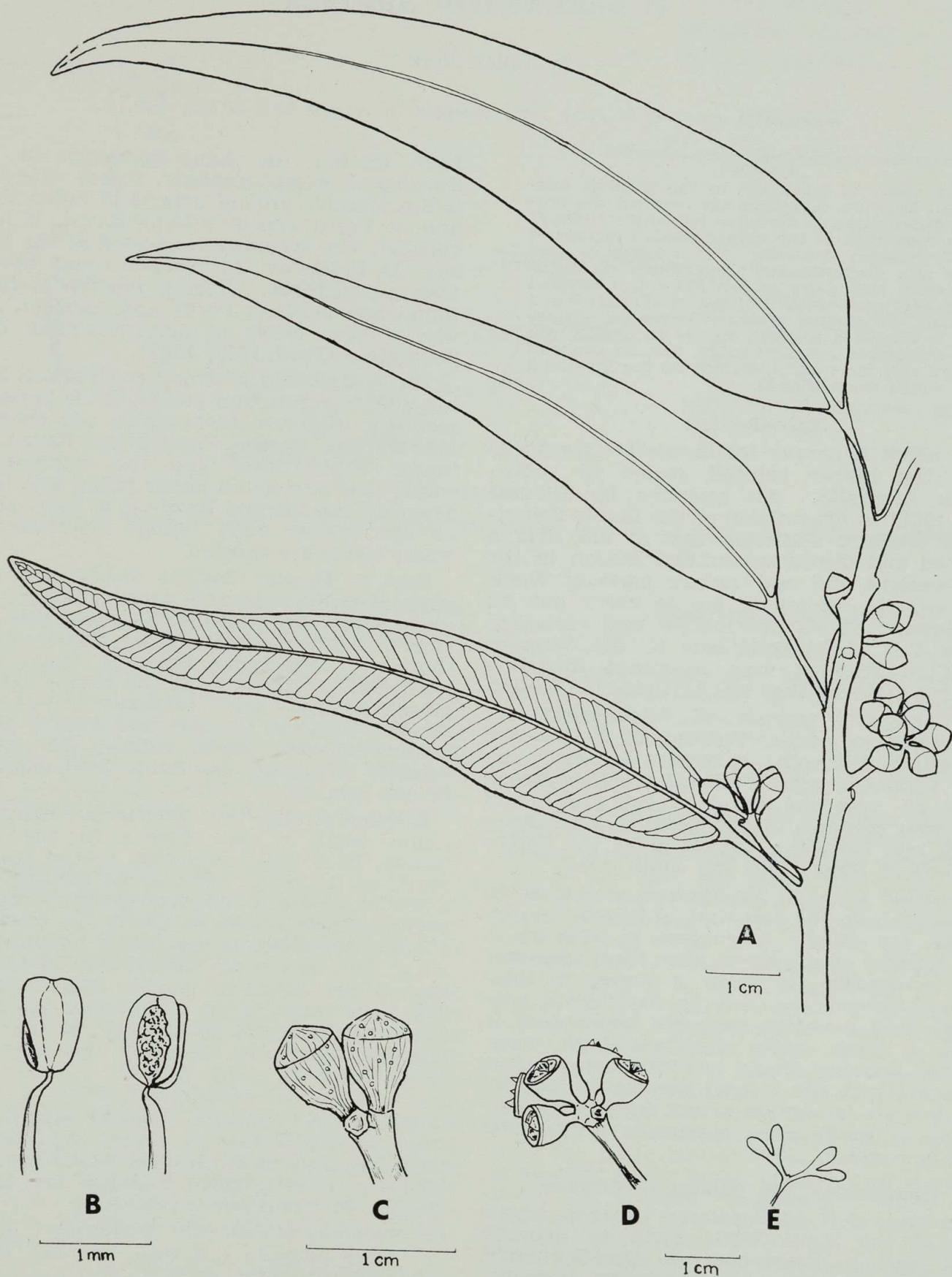


Fig. 3.—*Eucalyptus laeliae* sp. nov. A. A twig; B. Anther; C. Buds; D. Capsules; E. Cotyledons.